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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,683	06/21/2006	Peter Larsson	P18752-US1	9439
27045	7590	06/10/2010	EXAMINER	
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR 1-C-11 PLANO, TX 75024			JAMA, ISAAK R	
			ART UNIT	PAPER NUMBER
			2617	
			NOTIFICATION DATE	DELIVERY MODE
			06/10/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/596,683	<b>Applicant(s)</b> LARSSON ET AL.	
	<b>Examiner</b> ISAAK R. JAMA	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6,8,13-15,17,18,23-31,33,38-40,42,43 and 48-50 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 13-15, 17-18, 23-25, 26-31, 33, 38-40, 42-43 and 48-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>03/22/2010</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments with respect to claims 1-8, 13-15, 17-18, 23-31, 33, 38-40, 42-43 and 48-50 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 23, 26 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication Number 2005/0181799 (Laroia et al.). (With priority to U.S. Provisional Patent Application Number 60/464,823 filed 04/23/2003) in view of U.S. Patent Number 6,496,531 (Kamel et al.).

1. Regarding claim 1, 23, 26 and 48, Laroia teaches a method in a radio communications equipment having processing circuitry for processing communications of traffic **[Figure 18, page 12, paragraph 0106; i.e. wireless terminal includes a receiver, a transmitter, I/O devices, a processor, e.g., a CPU, and a memory coupled together via bus over which the various elements may interchange data and information]** with different characteristics wherein traffic from at least two information sources is divided into two or more categories including a first and a second category for transfer with different characteristics, the method comprising transmitting

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the traffic for the transfer with different characteristics on physically wholly or partially separated channels **[Figure 19, Step 1904; i.e. a base station is operated to generate and transmit signals, e.g., pilot signals, for each of a plurality of different wireless communications channels, which the base station can use to communicate information between the base station and a wireless communications terminal, said plurality of different wireless communications channels including at least a first communications channel and a second communication channel, the first and the second communications channels having different quality characteristics which are a function of first and second transmission technologies used to establish said communications channels, said first and second technologies being different]**. But Laroia does not explicitly teach that the different traffic is user traffic data and a voice traffic data. Kamel teaches a method and system for controlling downlink transmit power in a wireless system **[Title]**, whereby a mobile station may receive multiple forward channels, including a voice channel, a control channel, and a data channel **[Column 1, lines 13-15]**, and that the control channel is preferably multiplexed onto the voice channel to form a composite channel **[Column 7, lines 19-21]**, and that the data channel may be placed on a separate channel apart from the composite channel which may consume additional base-station resources **[Column 7, lines 24-27]**. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the channel separation of Kamel into the system of Laroia in order to support independent

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power control of multiple forward channels to reduce fading, as taught by Kamel **[see column 2, lines 13-15]**.

2. Regarding claims 2 and 27, Laroia further teaches that the different characteristics of transfer comprises different time scale of power control adjustments **[Figure 7, i.e. the base station can allocate power differently across the pipes in accordance with the respective channel conditions on the pipes with respect to the wireless terminal receiving the segment]**.

3. Regarding claims 3 and 28, Laroia further teaches that there is a difference in time scale between at least two categories that is at least one order of magnitude **[Figure 7, i.e. Pipes 708 & 710, and the time scale being doubled from  $t_0$ - $t_1$ ]**.

4. Regarding claims 24 and 49, Laroia further teaches that the separation minimizes number of time slots, frequency slots or time-frequency slots of communications with different characteristics in the different cells **[Figures 1 & 2, and 3, page 4, paragraph 0043; i.e. different pipes for different users with different frequencies or different time slots]**.

5. Regarding claims 4 and 29, Laroia also teaches that the first category of communications is transmitted with stationary or quasi-stationary transmission power level **[Figure 12; See pipes "A", "B" and "C" with different powers; Page 9, paragraph 0089; i.e. power allocation is not necessarily static either. The total transmit power can be varied at a slow rate for each of the parallel pipes (i.e. quasi static)]**.

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6. Regarding claims 5 and 30, Laroia teaches that the quasi-stationary transmission power level is varying slower than the lowest speed of communications variations of the traffic of the first category **[Page 2, paragraph 0013; i.e. the mobility of the mobile node is taken into consideration when deciding what technology to use to communicate with the mobile node. In cases where the mobile node is moving at a high speed, the channel is likely to be changing at a relatively high rate. The speed of motion by a wireless terminal is sometimes estimated based on the rate of fading, a measured Doppler shift, or other signals such as the rate of changes in the power level of a periodic signal received from a wireless terminal or the rate and/or amount of timing corrections made by a wireless terminal or signaled to the wireless terminal].**

7. Regarding claims 6, 8, 31 and 33, Laroia further teaches that the second category of communications is transmitted with power level adapted to counteract fading **[Page 16, paragraph 0141 – i.e. The step of making a measurement indicative of a rate of motion of said wireless terminal may alternatively include measuring the rate of change in at least one of: timing control signals which are used to instruct the mobile to make a clock timing change; the rate at which the power in a periodically transmitted signal from the mobile node changes over with time, a rate of change in a measured quality of a communications channel, and a rate of change in a channel fading measurement].**

8. Regarding claims 13, 14, 15, 38, 39 and 40; Laroia teaches that the communications are separated in one-dimensional domain which is also a time domain;

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and a frequency domain **[Figures 1 & 2; i.e. single frequency and variable time in Figure 1 and single time and variable frequency in Figure 2]**.

9. Regarding claims 17, 18, 42 and 43; Laroia also teaches that the communications are separated in two-dimensional domain which is also a time and frequency domain **[Figure 3, page 4, paragraph 0043; i.e. graph of frequency on the vertical axis vs time on the horizontal axis]**.

10. Regarding claims 25 and 50, Laroia is further teaches a processing circuitry maximizing the signal to interference ratio or carrier to interference ratio of time slots, frequency slots or time-frequency slots, if any, of communications with different characteristics in the different cells **[Page 12, paragraph 0105; i.e. WT (wireless terminal) channel pipe selection/channel quality report processing module receives WT feedback reports including the wireless terminal's selected (preferred) pipe and associated channel quality report information, e.g., SNR, SIR, fading information]**.

### ***Conclusion***

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Number 7,230,991 (Sang et al.) teaches a scheduling method with tunable throughput maximization and fairness guarantees in resource allocation. "Opportunistic transmission scheduling with resource-sharing constraints in wireless networks" to Liu et al. teaches an opportunistic transmission scheduling policy that exploits time-varying channel conditions and maximizes the system performance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ISAAK R. JAMA whose telephone number is (571)270-5887. The examiner can normally be reached on Monday-Thursday; 4-10.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/IRJ/

/LESTER KINCAID/  
Supervisory Patent Examiner, Art Unit 2617